

## REMARKS

In the Office Action mailed December 27, 2005, the Examiner took the following action: (1) rejected claims 1-4, 5, 6, and 10-14 under 35 U.S.C. §102(b) as being anticipated by Shimbara (U.S. 5,509,848); (2) rejected claims 4 and 12 under 35 U.S.C. §103(a) as being unpatentable over Shimbara in view of knowledge of persons of ordinary skill in the art; (3) rejected claims 9 and 17 under 35 U.S.C. §103(a) as being unpatentable over Shimbara in view of Tanimoto (JP 03234460 A); and (4) rejected claims 1 and 9 under the judicially-created doctrine of obviousness-type double patenting. The Examiner acknowledged that claims 7, 8, 15, and 16 are allowable if rewritten to include the limitations of their respective base and intermediate claims. Applicant respectfully requests reconsideration of the application in view of the foregoing amendments and the following remarks.

### *I. Allowable Subject Matter*

Applicant expresses appreciation to the Examiner for acknowledging the existence of allowable subject matter. Without comment or prejudice as to the merits of the Examiner's rejections, Applicant hereby amends claims and cancels claims in order to expedite the issuance of the subject matter acknowledged to be allowable by the Examiner, and without prejudice to the filing of any subsequent continuation or divisional applications.

Specifically, Claim 1 has been amended to include the limitations of claims 3 and 7, consistent with the Examiner's acknowledgement of claim 7 as being allowable, and thereby placing claim 1 in condition for allowance. Claims 3 and 7 have been canceled. Claims 2, 4-6, and 8-9 depend from allowable claim 1. Therefore, Applicants respectfully submit that claims 1, 2, 4-6, and 8-9 are now in condition for allowance.

Similarly, Claim 10 has been amended to include the limitations of claim 15, and to correct an antecedent basis problem with regard to the reference to a robotic arm, thereby placing

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claim 10 in condition for allowance. Claim 15 has been canceled. Claims 11-14 and 16-17 depend from allowable claim 10. Therefore, Applicants respectfully submit that claims 10-14 and 16-17 are now in condition for allowance.

## II. New Claims 27-29

New claim 27 recites a lapping end effector for performing an operation on a surface of a workpiece, comprising a first base attachable to a robotic arm; a second base; a lapping pad attached to the second base; and *a flexible coupling system coupled between the first and second bases, the flexible coupling system configured to flex to allow the lapping pad to at least partially conform to the surface of the workpiece such that an axis of rotation of the lapping pad is non-normal to the surface during performance of the operation.* (emphasis added). Support for the limitations recited in claim 27 may be found, for example, on page 7, lines 17-24 of Applicant's specification.

Applicant respectfully submits that claim 27 is allowable over the cited references. More specifically, the cited references fail to disclose, teach, or fairly suggest a lapping end effector that includes first and second bases, and *a flexible coupling system coupled between the first and second bases, the flexible coupling system configured to flex to allow the lapping pad to at least partially conform to the surface of the workpiece such that an axis of rotation of the lapping pad is non-normal to the surface during performance of the operation* as recited in claim 27.

Specifically, Shimbara (U.S. 5,509,848) teaches that an axis of rotation AX of a polishing pad must be perpendicular to the surface during the polishing operation (4:29-32; 4:53-58; 6:22-25; Figures 5-8). Similarly, as best shown in Figures 4 and 5 of Tanimoto (JP 03234460 A), Tanimoto teaches an apparatus having an axis of rotation that remains normal to the surface of the workpiece. Thus, the cited references fail to teach or fairly suggest a lapping end effector

that includes first and second bases, and *a flexible coupling system coupled between the first and second bases, the flexible coupling system configured to flex to allow the lapping pad to at least partially conform to the surface of the workpiece such that an axis of rotation of the lapping pad is non-normal to the surface during performance of the operation* as recited in claim 27. Claim 27 is therefore allowable.

Claims 28-29 depend from claim 27 and are allowable at least due to their dependency on claim 27, and also due to additional limitations recited in those claims. For example, claim 29 recites the end effector of Claim 27, wherein the second base comprises a latch for attaching the lapping pad to the second base. As acknowledged by the Examiner, this additional limitation is also not taught or fairly suggested by the prior art (see original claims 8 and 16). Accordingly, claims 27-29 are also in condition for allowance.

### *III. Rejections under the Doctrine of Obviousness-Type Double Patenting*

The Examiner rejected claims 1 and 9 under the judicially-created doctrine of obviousness-type double patenting in view of claim 1 of U.S. Patent No. 6,921,317. Applicant respectfully submits that in view of the above-noted amendment of claim 1 (and claim 9 by virtue of its dependency on claim 1), the rejections of 1 and 9 under the judicially-created doctrine of obviousness-type double patenting have been rendered moot. Accordingly, Applicant requests reconsideration and withdrawal of these rejections.

### CONCLUSION

Applicants respectfully submit pending claims 1-2, 4-6, 8-14, 16-17, and 27-29 are now in condition for allowance. If there are any remaining matters that may be handled by telephone conference, the Examiner is kindly invited to contact the undersigned attorney at the telephone number listed below.

Respectfully Submitted,

Dated:

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